

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 7 (Cancelled).

8. (Previously presented) A sensor arrangement, comprising:
- a semiconductor chip having a first surface, which has a media-sensitive region and at least one, first, electrical contact surface;
 - a support having a second surface, which faces said first surface of said semiconductor chip, has an opening, which at least overlaps with said media-sensitive region, and at least one, second, electrical contact surface, which at least overlaps with said at least one, first, electrical contact surface; and
 - a sealing element, which is clamped between said support and said semiconductor chip and produces an electrically conducting connection between said at least one, first, contact surface and said at least one, second, contact surface, and which has a traversing opening, which at least overlaps with the opening in said second surface, so that said media-sensitive region of said semiconductor opening is contactable through said opening with an analyte, wherein:
 - said sealing element is elastic and seals the region outside of said opening against contamination with the analyte; and
 - said elastic sealing element comprises an elastic, insulating, organic layer with a plurality of embedded, conductive particles, grains or filaments.

Claims 9 and 10 (Cancelled).

11. (Previously presented) The sensor arrangement as claimed in claim 8, wherein:

said elastic, sealing element comprises a silicone layer with embedded gold filaments, which extend perpendicular to the plane of the silicone layer.

12. (Previously presented) The sensor arrangement as claimed in claim 8, wherein:

said elastic insulating organic layer includes embedded, metal grains in the relaxed state in a concentration such that the number of electrical contacts between the grains is insufficient to produce a continuous electrical conductivity; and

by clamping of said elastic insulating organic layer as a sealing element between said support and said semiconductor chip, said elastic insulating organic layer is compressed to a degree such that, in the direction of compression, a sufficient number of electrical contacts is present for producing a conducting connection between said at least one, first, contact surface and said at least one, second, contact surface.

13. (Previously presented) The sensor arrangement as claimed in claim 8, wherein:

said semiconductor chip has an ion-sensitive region.

14. (Previously presented) The sensor arrangement as claimed in claim 8, wherein:

said semiconductor chip is a pH sensor element or a redox sensor element.

15. (Previously presented) A sensor arrangement comprising:

a semiconductor chip having a first surface, which has a media-sensitive region and at least one, first, electrical contact surface;

a support having a second surface, which faces said first surface of said

semiconductor chip, has an opening, which at least overlaps with said media-sensitive region, and at least one, second, electrical contact surface, which at least overlaps with said at least one, first, electrical contact surface; and

an anisotropic conductor, which is arranged between said support and said semiconductor chip and produces an electrically conducting connection between said at least one, first, contact surface and said at least one, second, contact surface, and which has a traversing opening, which at least overlaps with the opening in said second surface, so that said media-sensitive region of said semiconductor opening is contactable through said opening with an analyte, wherein:

said anisotropic conductor seals the region outside of said opening against contamination with the analyte;

said anisotropic conductor is elastic; and

said elastic anisotropic conductor comprises a silicone layer with embedded gold filaments, which extend perpendicular to the plane of the silicone layer.

16. (Previously presented) The sensor arrangement as claimed in claim 15, wherein:

said semiconductor chip has an ion-sensitive region.

17. (Previously presented) The sensor arrangement as claimed in claim 15, wherein:

said semiconductor chip is a pH sensor element or a redox sensor element.